The Examiner asserts that the phrase "a receptor or a ligand" in claims 2-3, line 6 is vague and indefinite because it is not clear whether the receptor and ligand in the instant phrase is the same or different from the ligands and receptors recited in lines 4-5.

Applicants respectfully traverse the rejection and submit that the claim language is clear. To meet the requirements of § 112, second paragraph, claims 2 and 3 must be sufficiently definite for one to reasonably determine its scope. MPEP § 706.03(d). As currently written, the elements of claims 2 and 3 are definite. That is, the "receptor or ligand" recited in line 6 is clearly different from the receptor and ligand in line 4. In the present invention, a receptor or ligand is bound to the porous adsorptive regions (i.e., bound receptor or ligand), and a receptor or ligand is caused to flow across each of the porous adsorptive regions and bind to a receptor or ligand bound to the porous adsorptive regions.

Therefore, the scope of the subject matter of claims 2 and 3 are clear, and the claims comply with 35 U.S.C. § 112, second paragraph. Accordingly, Applicants respectfully request withdrawal of the rejection.

II. Response to the Rejection of claims 2-3 and 5-6 under 35 U.S.C. §102(b)

At page 3 of the Office Action, claims 2-3 and 5-6 are rejected under 35 U.S.C. §102(b) as allegedly being anticipated by Besemer et al (US 6,140,044).

Applicants respectfully traverse the rejection and submit that Besemer does not disclose, teach or suggest the presently claimed invention.

A difference between the present invention and Besemer is that Besemer does not disclose, teach or suggest the porous adsorptive regions of the present invention. The porous adsorptive regions of the present invention are not the same as the probe array of Besemer. The probe array of Besemer is formed by using a masked light source or other activator to synthesize different chemical compounds. *See* col. 4, lines 22-47. In contrast, the porous adsorptive regions of the biochemical analysis unit of the present invention is formed by forming holes in a base plate 2 by, for example, punching with a pin, electrical discharge machining, etching or laser beam irradiation, and filling the holes with a porous material. *See* page 22, line 13 to page 24, line 17. Therefore, Besemer does not teach the porous adsorptive regions of the present invention.

As a result of the differences between the probe array and the porous adsorptive regions, different bubbles are generated. That is, bubbles that cling to the adsorptive regions form in the present invention while bubbles are formed as a result of the use of nitrogen to introduce and circulate the fluid in Besemer. Consequently, the objective or problem to be solved by the present invention and Besemer are different.

Since Besemer does not teach or suggest the porous adsorptive regions of the present invention, Besemer does not teach or suggest causing fluid to flow <u>across</u> the porous adsorptive regions. Unlike Besemer, bubbles cannot be removed by merely causing fluid to flow in the vertical direction in the present invention. Therefore it is required to provide a process for positively removing or dissolving bubbles in the present invention. Thus, the objective or problem to be solved by the present invention and Besemer are different.

In view of the above, Applicants respectfully submit that present invention is not anticipated by Besemer. Accordingly, Applicants respectfully request withdrawal of the rejection.

III. Response to Rejection of Claims 8-9 and 11-12 under 35 U.S.C. §103

At pages 4-6 of the Office Action, claims 8-9 and 11-12 are rejected under 35 U.S.C. 103(a) as allegedly being unpatentable over Besemer et al. in view of Bronstein et al (US 5,543,295).

Applicants respectfully traverse the rejection and submit that the cited references do not teach or suggest the presently claimed invention, whether taken alone or in combination.

As set forth above, Besemer does not disclose, teach or suggest the porous adsorptive regions of the present invention. Since Besemer does not disclose teach or suggest the porous adsorptive regions of the present invention, Besemer does not disclose, teach or suggest the element of causing fluid to flow across the porous adsorptive regions of the claimed invention.

Bronstein does not remedy the deficiencies of Besemer. Further there is no motivation to combine the references. Besemer is related to a means for performing a bio-assay, whereas Bronstein is related to an improvement in chemiluminescent Dioxetanes. Therefore, even if the references were combined, merely a means for performing a bio-assay detection using improved chemiluminescent Dioxetanes would be obtained. This is because Besemer does not disclose teach or suggest porous adsorptive regions as in the claimed invention and therefore the problem of generation of bubbles does not occur in Besemer. Thus, one of ordinary skill in

the art would not have considered the step of performing a bubble removing process for removing bubbles as recited in claim 2 or the step of performing bubble dissolving processing for dissolving bubbles as recited in claim 3. Therefore, the present invention would not have been achieved even if the references were combined.

In view of the above, the cited references , whether taken alone or in combination, do not render the claimed invention obvious. Accordingly, Applicants respectfully request withdrawal of the rejection.

IV. Response to the Obviousness-type Double Patenting Rejection

At pages 6-9 of the Office Action, claims 2-3, 5-6, 8-9 and 11-12 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as allegedly being unpatentable over claims 1-4 of co-pending application no. 10/649,719 in view of Besemer et al.

Applicants respectfully submit that where the Examiner has issued a provisional obviousness-type double patenting rejection between two co-pending applications and the only rejection remaining in one application prior to issuing a Notice of Allowance is the provisional obviousness-type double patenting rejection, the Examiner should withdraw that rejection and permit the application to issue as the patent. Therefore, Applicants respectfully request the Examiner to withdraw the obviousness-type double patenting rejection in this application.

V. Conclusion

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

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